

RECEIVED SEP 28 2006



February 16, 2006

Ms. Jan T. Cooke, Hydrogeologist  
Groundwater Quality Section  
Water Monitoring, Assessment and Protection Division  
SC DHEC  
2600 Bull Street  
Columbia, South Carolina 29201

**SUBJECT:** Report of Findings  
Goodyear Tire Company  
Castlebridge Properties, LLC Property  
200 & 280 National Avenue  
Spartanburg, Spartanburg County, South Carolina  
Site ID # 03066

Dear Ms. Cooke:

Ground Engineering Solutions (GES) has completed a Phase II Environmental Site Assessment (Phase II) of the Castlebridge Properties, LLC property located at 200 and 280 National Avenue in Spartanburg, Spartanburg County, South Carolina (Exhibit 1). This report presents a summary of the work performed during the Phase II and results of the laboratory analysis per monitoring well approval #2472. The investigation work is based on the results of a May 2005 Phase I Environmental Site Assessment Report of the property conducted by GES.

**BACKGROUND**

The subject property contains two buildings utilized for the storage and distribution of tires and rubber products (Goodyear Tire Company, 1989 to present). Previous usages of the property included a textile cut and sew operation (Butte Knit, Jonathan Logan, Act III (United Merchants), 1970 to 1980's) and a cabinet and door hardware manufacturer (National Lock Company, 1983-1985). According to knowledgeable persons, no hazardous chemicals were used, stored or disposed during the operation of the former textile cut and sew operation (Butte Knit) and the current tire and rubber storage and distribution operation (Goodyear Tire Company). However, a metal plating operation was utilized by National Lock in the 200 National Avenue building (Exhibit 2). Etched and stained concrete was observed in the former metal plating room. Plating fluids were stored in a 6,000-gallon above ground storage tank located within a secondary containment structure on the northwest side of the building. Waste water from the plating operation was contained in two plastic tanks housed in two in-ground basins within the building. Treated waste water was discharged to a secondary above ground plastic settling tank located on the northwest corner of the property. Afterwards, the treated water was discharged to the sanitary sewer via an in-ground concrete weir.

As a result of the environmental concerns identified for the property, a Phase II environmental assessment was requested by a potential buyer of the property, National Avenue Properties, LLC to assess potential impacts to the soil and groundwater associated with these areas of concern.

#### **SOIL AND GROUNDWATER QUALITY SAMPLING ACTIVITIES**

GES personnel conducted soil and groundwater quality sampling activities at the site on October 21, 2005. Probe Technology, Inc. (SC certification #B01432) of Concord, NC installed the soil borings and temporary wells with a truck-mounted GeoProbe® 5410 direct-push rig. Three soil borings/temporary wells (GP-1 – GP-3) were installed. The soil borings were situated in the vicinity and downgradient of the interior waste water treatment tank and plating operations (GP-1), the plating fluids above ground storage tanks (GP-2) and the in-ground concrete weir (GP-3). The locations of the soil borings/temporary wells are illustrated in Exhibit 2.

To determine the underlying soil conditions and depth to water, continuous soil cores (macro cores) were collected in GP-1 to 24 feet. The soil samples were described as predominantly micaceous silty sand, indicative of saprolitic soils in the Piedmont of South Carolina. No odors, discolored or stained soils were observed. Groundwater was indicated in GP-1 at a depth of 17.3 feet below ground surface. A soil sample was collected at the water table interface from GP-1 at a depth interval of 16 to 17 feet for laboratory analysis. The GeoProbe sampler was extended to determine the depth to bedrock as determined by probe refusal. A transition zone was encountered at 36 feet and bedrock conditions were determined at 39 feet below ground surface.

Following soil sample collection, a GeoProbe® groundwater sampling tool was installed in each soil boring for purposes of collecting a groundwater quality sample. A groundwater sample was collected from GP-1 at the water table interface at a depth interval of 20 to 24 feet and at the depth of bedrock at an interval of 35 to 39 feet. A groundwater sample was collected from GP-2 at the water table interface at a depth interval of 24 to 28 feet. Several attempts were made to collect a groundwater sample at the GP-3 location; however, no groundwater was detected prior to intercepting the bedrock at depths ranging from 7 to 9 feet below the ground surface. Following groundwater sample collection, the borings were abandoned with a tremied bentonite cement grout from the bottom of the boring to the land surface.

#### **RESULTS OF LABORATORY ANALYSIS**

The soil and groundwater samples were submitted to Shealy Environmental Services, Inc. (SC DHEC Certification #32010) for laboratory analysis. The soil sample was analyzed for volatile organic compounds (VOCs) by US EPA method 8260B, following method preparation 5035, and the RCRA eight metals plus zinc. The groundwater samples were analyzed for VOCs by US EPA method 8260B. The detected analytical data is summarized in Table 1. The laboratory analytical reports and chain of custody are included as an attachment.

Analytical results for the GP-1 soil sample indicate a detection of several volatile organic compounds including cis-1,2-dichloroethene (19 µg/kg), trichloroethene (30 µg/kg) and tetrachloroethene (140 µg/kg). No other volatile organic compounds were detected above the method detection limit. Several metal constituents were detected including barium (310 mg/kg), chromium (72 mg/kg), lead (34 mg/kg) and zinc (86 mg/kg). No other metal constituents were detected above the method detection limit in GP-1.

Groundwater analytical results indicated several volatile organic compounds were detected in the samples from GP-1 and GP-2. Analytical results from the GP-1 shallow groundwater sample (20 to 24 feet) indicate cis-1,2-dichloroethene (66 µg/L), tetrachloroethene (340 µg/L) and trichloroethene (98 µg/L). Tetrachloroethene was detected in the deeper GP-1 groundwater sample (35 to 39 feet) at a concentration of 250 µg/L. Tetrachloroethene was also detected in the GP-2 sample at a concentration of 180 µg/L.

**TABLE 1**  
**GROUNDWATER AND SOIL ANALYTICAL RESULTS**  
**DETECTED ORGANIC AND INORGANIC CONSTITUENTS**  
**CASTLEBRIDGE PROPERTIES LLC PROPERTY**  
**SPARTANBURG, SOUTH CAROLINA**

	DETECTED ORGANIC/INORGANIC CONSTITUENTS						
SAMPLE (DEPTH, FT)	CIS 1,2 DCE	PCE	TCE	BARIUM	CHROMIUM	LEAD	ZINC
SOIL (mg/kg)							
GP-1 (16-17')	0.019	0.14	0.03	310	72	34	86
PRG <sup>1</sup>	150	1.3	0.11	67,000	450	800	100,000
GROUNDWATER (µg/L)							
GP-1 (20-24')	66	340	98	NA	NA	NA	NA
GP-1 (35-39')	<5.0	250	<5.0	NA	NA	NA	NA
GP-2 (24-28')	<5.0	180	<5.0	NA	NA	NA	NA
MCL <sup>2</sup>	70	5	5				

1. PRG = PRELIMINARY REMEDIATION GOALS IN AN INDUSTRIAL SETTING. US EPA REGION 9, 10/2004

2. MCL = MAXIMUM CONTAMINANT LEVELS.

Bold values indicate detected concentrations above the MCL.

## SUMMARY

Soil and groundwater sampling was conducted on the Castlebridge Properties LLC property to evaluate the soil and groundwater quality associated with the previous and current use of the property. Analytical results indicate impacted soils from compounds indicative of chlorinated solvents in the vicinity of the discontinued interior waste water treatment tank and plating operations (GP-1). The detected soil concentrations are below the US EPA Region 9 preliminary remediation goals for industrial settings as recognized by SC DHEC.

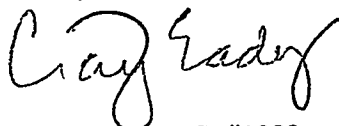
The groundwater analytical results indicate impacts to the groundwater with compounds indicative of chlorinated solvents in the vicinity of the interior waste water treatment tank and plating operations and the plating fluids above ground storage tanks. The detected VOCs in GP-1 and GP-2 exceed the established US EPA Maximum Contaminant Levels (MCLs) for cis-1,2-dichloroethene (70 µg/L), tetrachloroethene (5 µg/L) and trichloroethene (5 µg/L). No groundwater was determined above the bedrock, as indicated by probe refusal, in the downgradient location adjacent to the concrete weir.

The waste water treatment system is no longer in operation (discontinued) and the current uses of the property included the warehousing and distribution of tires and rubber products.

If you have any questions and (or) comments regarding this report, or if I can be of further assistance, please contact me at (864) 292-2901.

Sincerely,

**GROUND ENGINEERING SOLUTIONS, INC.**



Craig D. Eady, P.G. #1099  
Senior Geologist

C: Mr. Randall Bentley, National Ave. Properties, LLC, 101 A West Court Street, Greenville, SC 29601  
Mr. Tom Morgan, Castlebridge Properties, LLC, PO Box 128, Hazelwood, NC 28738

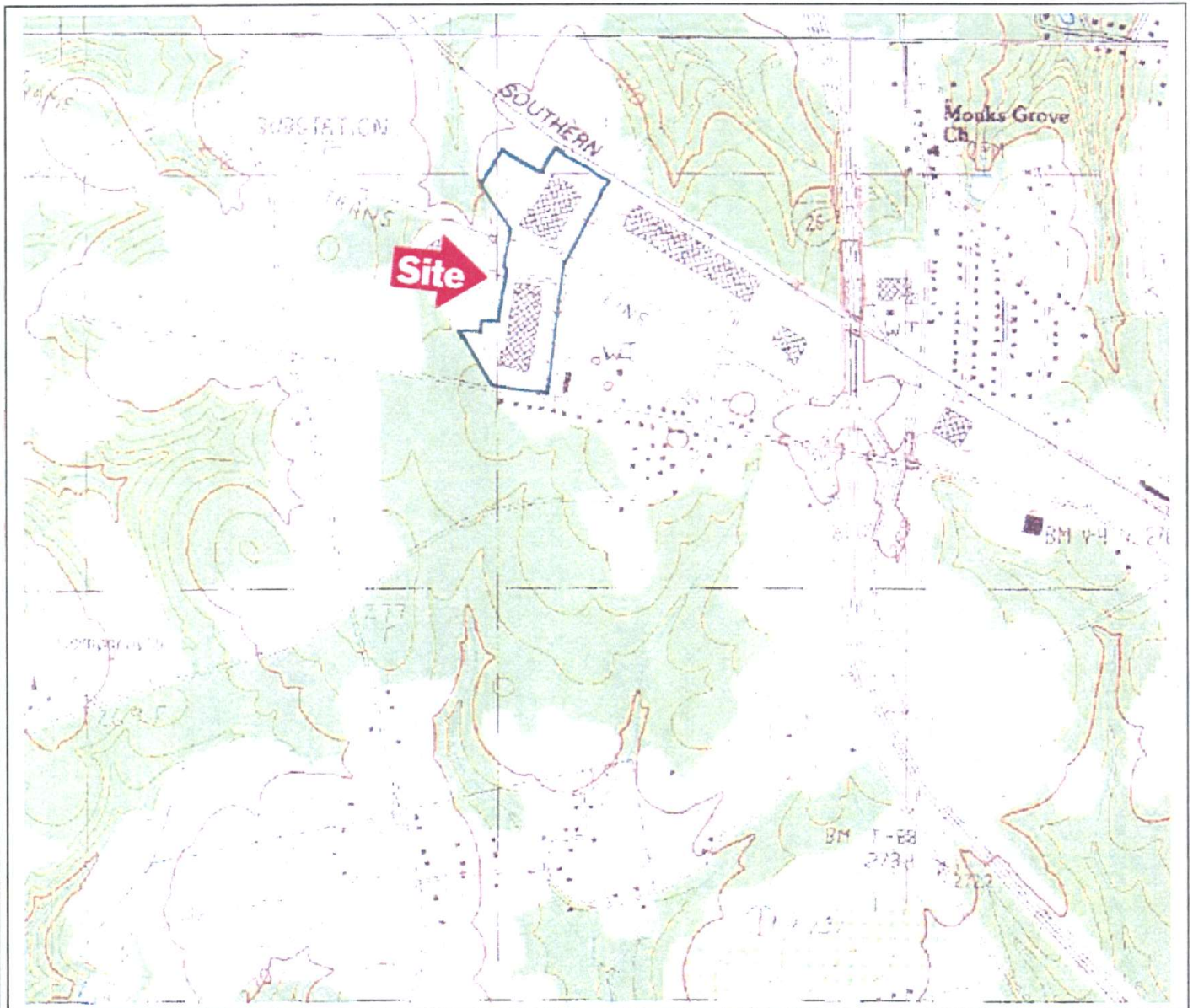
Enclosure(s): Attachments

## FIGURES



**SITE LOCATION MAP**  
Castlebridge Properties LLC Property  
200 & 280 National Avenue  
Spartanburg, South Carolina  
GES Project No: EFA 051.12  
Scale: 1" = 1320'

**SOURCE:**  
USGS W of Southern Shops, SC  
[www.terraserver-usa.com](http://www.terraserver-usa.com)  
Date: July 1, 1983  
**EXHIBIT 1**





### GEOPROBE SAMPLE LOCATIONS

Castlebridge Properties LLC Property  
200 & 280 National Avenue  
Spartanburg, South Carolina  
GES Project No: EFA 051.12  
Scale: 1" = 200'↑

### SOURCE:

Spartanburg Tax Assessor  
2004 Aerial Photograph

### EXHIBIT 2



## **LABORATORY REPORT**

# **SHEALY ENVIRONMENTAL SERVICES, INC.**

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## **Report of Analysis**

### **Ground Engineering Solutions, Inc.**

3534 Rutherford Road

Taylors, SC 29687

Attention: Craig Eady

Project Name: **Goodyear Tire**

Project Number: **EFA 051.12**

Lot Number: **GJ24017**

Date Completed: **10/27/2005**

**Kelly M. Maberry**

Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.



# SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DEHNR No: 329

## Case Narrative Ground Engineering Solutions, Inc. Lot Number: GJ24017

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

# **SHEALY ENVIRONMENTAL SERVICES, INC.**

## **Sample Summary** **Ground Engineering Solutions, Inc.** **Lot Number: GJ24017**

<b>Sample Number</b>	<b>Sample ID</b>	<b>Matrix</b>	<b>Date Sampled</b>
001	GP-1: 20-24'	Aqueous	10/24/2005 1000
002	GP-1: 35-39'	Aqueous	10/24/2005 1020
003	GP-2: 24-28'	Aqueous	10/24/2005 1045
004	GP-1: 16-17'	Solid	10/24/2005 1015

(4 samples)

# SHEALY ENVIRONMENTAL SERVICES, INC.

## Executive Summary Ground Engineering Solutions, Inc. Lot Number: GJ24017

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	GP-1: 20-24'	Aqueous	cis-1,2-Dichloroethene	8260B	66		ug/L	5
001	GP-1: 20-24'	Aqueous	Tetrachloroethene	8260B	340		ug/L	5
001	GP-1: 20-24'	Aqueous	Trichloroethene	8260B	98		ug/L	5
002	GP-1: 35-39'	Aqueous	Tetrachloroethene	8260B	250		ug/L	7
003	GP-2: 24-28'	Aqueous	Tetrachloroethene	8260B	180		ug/L	9
004	GP-1: 16-17'	Solid	cis-1,2-Dichloroethene	8260B	19		ug/kg	11
004	GP-1: 16-17'	Solid	Tetrachloroethene	8260B	140		ug/kg	11
004	GP-1: 16-17'	Solid	Trichloroethene	8260B	30		ug/kg	11
004	GP-1: 16-17'	Solid	Barium	6010B	310		mg/kg	13
004	GP-1: 16-17'	Solid	Chromium	6010B	72		mg/kg	13
004	GP-1: 16-17'	Solid	Lead	6010B	34		mg/kg	13
004	GP-1: 16-17'	Solid	Zinc	6010B	86		mg/kg	13

(12 detections)

# Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.				Laboratory ID: GJ24017-001			
Description: GP-1: 20-24'				Matrix: Aqueous			
Date Sampled: 10/24/2005 1000							
Date Received: 10/24/2005							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	10/26/2005 1249	RED		32318

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		100	ug/L	1
Benzene	71-43-2	8260B	ND		25	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		25	ug/L	1
Bromoform	75-25-2	8260B	ND		25	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		25	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		50	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		25	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		25	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		25	ug/L	1
Chloroethane	75-00-3	8260B	ND		25	ug/L	1
Chloroform	67-66-3	8260B	ND		25	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		25	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		25	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		25	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		25	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		25	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		25	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		25	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		25	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		25	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	66		25	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		25	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		25	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		25	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		25	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		25	ug/L	1
2-Hexanone	591-78-6	8260B	ND		50	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		50	ug/L	1
Methylene chloride	75-09-2	8260B	ND		25	ug/L	1
Naphthalene	91-20-3	8260B	ND		25	ug/L	1
Styrene	100-42-5	8260B	ND		25	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		25	ug/L	1
Tetrachloroethene	127-18-4	8260B	340		25	ug/L	1
Toluene	108-88-3	8260B	ND		25	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		25	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		25	ug/L	1
Trichloroethene	79-01-6	8260B	98		25	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		10	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		25	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the PQL

J = Estimated result less than the PQL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

## Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.

Laboratory ID: GJ24017-001

Description: GP-1: 20-24'

Matrix: Aqueous

Date Sampled: 10/24/2005 1000

Date Received: 10/24/2005

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	52-138
Bromofluorobenzene		97	70-147
Toluene-d8		96	76-125

PQL = Practical quantitation limit

ND = Not detected at or above the PQL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Shealy Environmental Services, Inc.

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

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Level 1 Report v2.1

# Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.				Laboratory ID: GJ24017-002			
Description: GP-1: 35-39'				Matrix: Aqueous			
Date Sampled: 10/24/2005 1020							
Date Received: 10/24/2005							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/26/2005 1157	RED		32318

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	250		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the PQL

J = Estimated result less than the PQL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

## Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.

Laboratory ID: GJ24017-002

Description: GP-1: 35-39'

Matrix: Aqueous

Date Sampled: 10/24/2005 1020

Date Received: 10/24/2005

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	52-138
Bromofluorobenzene		96	70-147
Toluene-d8		98	76-125

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the PQL

J = Estimated result less than the PQL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

# Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.

Laboratory ID: GJ24017-003

Description: GP-2: 24-28'

Matrix: Aqueous

Date Sampled: 10/24/2005 1045

Date Received: 10/24/2005

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/26/2005 1220	RED		32318

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	ug/L	1
Chloroform	67-66-3	8260B	ND		5.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	ug/L	1
Tetrachloroethene	127-18-4	8260B	180		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	ug/L	1
Trichloroethene	79-01-6	8260B	ND		5.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the PQL

J = Estimated result less than the PQL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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## Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.

Laboratory ID: GJ24017-003

Description: GP-2: 24-28'

Matrix: Aqueous

Date Sampled: 10/24/2005 1045

Date Received: 10/24/2005

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	52-138
Bromofluorobenzene		96	70-147
Toluene-d8		97	76-125

PQL = Practical quantitation limit

B = Detected in the method blank

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P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

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# Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.				Laboratory ID: GJ24017-004			
Description: GP-1: 16-17				Matrix: Solid			
Date Sampled: 10/24/2005 1015				% Solids: 68.9 10/25/2005 1903			
Date Received: 10/24/2005							

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5035	8260B	1	10/25/2005 1209	RED		32257

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		23	ug/kg	1
Benzene	71-43-2	8260B	ND		5.6	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		5.6	ug/kg	1
Bromoform	75-25-2	8260B	ND		5.6	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.6	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		11	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		5.6	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		5.6	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		5.6	ug/kg	1
Chloroethane	75-00-3	8260B	ND		5.6	ug/kg	1
Chloroform	67-66-3	8260B	ND		5.6	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.6	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.6	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		5.6	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.6	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.6	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.6	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.6	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.6	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.6	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.6	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	19		5.6	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.6	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.6	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.6	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.6	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.6	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		11	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.6	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		11	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		5.6	ug/kg	1
Naphthalene	91-20-3	8260B	ND		5.6	ug/kg	1
Styrene	100-42-5	8260B	ND		5.6	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.6	ug/kg	1
Tetrachloroethene	127-18-4	8260B	140		5.6	ug/kg	1
Toluene	108-88-3	8260B	ND		5.6	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.6	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.6	ug/kg	1
Trichloroethene	79-01-6	8260B	30		5.6	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		5.6	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		5.6	ug/kg	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the PQL

J = Estimated result less than the PQL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

## Volatile Organic Compounds by GC/MS

Client: Ground Engineering Solutions, Inc.

Laboratory ID: GJ24017-004

Description: GP-1: 16-17

Matrix: Solid

Date Sampled: 10/24/2005 1015

% Solids: 68.9 10/25/2005 1903

Date Received: 10/24/2005

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		121	53-142
Bromofluorobenzene		121	47-138
Toluene-d8		117	68-124

PQL = Practical quantitation limit

B = Detected in the method blank

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# Metals

Client: Ground Engineering Solutions, Inc.

Laboratory ID: GJ24017-004

Description: GP-1: 16-17'

Matrix: Solid

Date Sampled: 10/24/2005 1015

% Solids: 68.9 10/25/2005 1903

Date Received: 10/24/2005

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7471A	1	10/26/2005 1351	VBS	10/26/2005 1100	32263
1	3050B	6010B	5	10/26/2005 1254	MNM	10/25/2005 1026	32237

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6010B	ND		1.8	mg/kg	1
Barium	7440-39-3	6010B	310		9.4	mg/kg	1
Cadmium	7440-43-9	6010B	ND		0.72	mg/kg	1
Chromium	7440-47-3	6010B	72		1.8	mg/kg	1
Lead	7439-92-1	6010B	34		1.8	mg/kg	1
Mercury	7439-97-6	7471A	ND		0.12	mg/kg	1
Selenium	7782-49-2	6010B	ND		1.8	mg/kg	1
Silver	7440-22-4	6010B	ND		1.8	mg/kg	1
Zinc	7440-66-6	6010B	86		18	mg/kg	1

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